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WAFER BOX WITH RADially PIVOTING LATCH ELEMENTSBACKGROUND OF THE INVENTION

This application is  ~~continuation in part of application serial no. 10/787,489 filed on February 25, 2004 which claims priority from provisional patent application serial no. 60/479,086 filed June 17, 2003.~~ a 371 of PCT/US04/14659 filed on 05/11/2004 and a CIP of application no. 10/787,489 filed on 02/25/2004 now patent no. 6,988,621, which claims benefit of provisional application no. 60/479,086 filed on 06/17/2003.

Field of the Invention

The present invention relates to a containment device or wafer box for semiconductor wafers. More particularly, this containment device has latch elements which pivot radially through slots in a cylindrical wall. The latch elements include spacer elements on the inside surface to engage semiconductor wafers within the cylindrical wall when the latch elements are in their upright position, detent engaged with the lid element. When the latch elements are not detent engaged with the lid, the latch elements along with the spacer elements are free to pivot radially outwardly to provide free access to the semiconductor wafers.

Description of the Prior Art

The prior art contains a variety of designs for the containment and transport of semiconductor wafers. These designs must provide both electrostatic and mechanical protection for the wafers contained therein. Preferably, such containment devices should be easily adaptable to various automated apparatus which load or unload the semiconductor wafers. Such containment devices should have a simple design which is reliable and economical to mass produce.

Examples of some prior art are U.S. Patent No. 6,193,068 entitled "Containment Device for Retaining Semiconductor Wafers" issued on February 27, 2001 to Lewis et al.; U.S. Patent No. 6,286,684 entitled "Protective System for Integrated Circuit (IC) Wafers Retained Within Containers Designed for Storage and Shipment" issued on September 11,